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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,561	10/31/2003	Johnny Zhong	15436.132.1	1109
22913	7590	07/28/2005	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			LEPISTO, RYAN A	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/698,561

Applicant(s)

ZHONG ET AL.

Examiner

Ryan Lepisto

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
4a) Of the above claim(s) 9-22 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-8 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. There is no form PTO-1449 in the application file. There is record of a transmittal letter that states that one was submitted, but the actual information disclosure statement was omitted and therefore no references have been considered.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 309, 512.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-4 and 7-8** are rejected under 35 U.S.C. 102(b) as being anticipated by Pelekhaty (US 6,215,592 B1). Pelekhaty teaches a wavelength division multiplexing system (or interleaver as defined by applicant) (Figs. 11 and 13-14) comprising a dual fiber GRIN collimator (284), an optical substrate (part of 282), a thin film portion (282) having a plurality of thin film layer (66, 68) of quarter wavelength thickness (column 5 lines 19-24) and spacers (254, 258, 256, etc) applied to the substrate for allowing certain wavelengths to pass and reflecting other adjacent wavelengths, an input fiber (290) for receiving an optical signal, a reflection fiber (298) for receiving reflected signals from the thin film filter (282), a single fiber GRIM collimator (286) optically coupled to the dual fiber collimator (284) for receiving signals passed by the filter (282), matching layers (196) that may be glass or air (column 5 lines 9-11) that have an index of refraction that creates an efficient interface between the optical substrate (silica, column 11 lines 54-55) since the film may be air (refractive index of 1), and cavities (spacers as described above) having an index of refraction (glass) for matching the dual fiber collimator (which are known to be glass) to the air surrounding (index = 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 5 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelekhaty as applied to claims 1-4 and 7-8 above, and further in view of **Tai et al (US 6,341,040 B1)** (Tai).

Pelekhaty teaches the interleaver described above used to reject claims 1-4 and 7-8.

Pelekhaty does not teach expressly 4 to 6 cavities or 72 to 74 thin film layers.

Pelekhaty does teach that any number of thin film layers may be used as necessary to achieve a desired reflectivity (column 9 lines 3-9).

Tai teaches 3 to 5 cavity filters (Fig. 12 for example) used in a system (Fig. 2) comprising similar components of the system taught by Pelekhaty, just with a different filter.

Pelekhaty and Tai are analogous art because they are from the same field of endeavor, interleavers comprising a dual fiber collimator, single fiber collimator, thin film filters and fiber (input, passing and reflecting) for multiplexing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to replace the filter taught by Pelekhaty with the one taught by Tai in the system taught by Pelekhaty and to maximize the number of thin films used for the

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particular function and system as taught by Pelekhaty since the systems function the same are comprising similar structures.

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

The motivation for doing so would have been to increase transmission efficiency by adding more cavities and therefore improving reflectivity and transmission (Tai, column 7 lines 23-26, 45-48).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- The following reference anticipate different numbers of applicant's claims as noted in parenthesis after each reference: Nosu et al (US 4,244,045) (1-3), Lee (US 5,917,626) (1-3), Pan (US 6,014,485) (1-3), Scobey et al (US 6,115,401) (1-4 and 7-8), Tai et al (US 6,341,040 B1) (1-4 and 7-8), Adair et al (US 6,490,381 B1) (1-4 and 7-8)
- The following reference are pertinent to the prior art in general: Cheo (US 3,924,931), Doneen (US 4,842,357), Rumbaugh et al (US 5,710,655), Cushing (US 5,719,989), Mizrahi (US 5,812,306), Cushing (US 6,018,421), Bergmann et al (US 6,125,221), Wang et al (US 6,175,667 B1), Cheng (US 6,219,481 B1),

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Melman et al (US 6,229,934 B1), Lee et al (US 6,269,202 B1), Alexander et al (US 6,281,997 B1), Yamane et al (US 6,295,147 B1), Scobey et al (US 6,320,996 B1), Barry et al (US 2002/0118417 A1), Zarrabian et al (US 2002/0131047 A1), Pan (US 6,459,844 B1), Lewis et al (US 6,486,988 B1), Tilsch (US 2003/0086176 A1), Salerno et al (US 2003/0123827 A1), Pan et al (US 2003/0147578 A1), Pan et al (US 2003/0147136 A1), Wang et al (US 6,611,378 B1), Scobey et al (US 6,658,172 B1), Scobey et al (US 6,678,093 B1), Xie et al (US 6,704,469 B1), Tilsch (US 6,721,100 B2), Zarrabian et al (US 6,785,002 B2), Hallock et al (US 6,792,210 B1), Takeda (US 6,831,784 B2), Chiu et al (US 2005/0031258 A1), Fukushima et al (US 2005/0030611 A1), Hopkins et al (US 2003/0012230 A1), Hulse (US 2003/0048985 A1), Archambault (US 6,567,196 B1).

6. Please note that the examiner believes there might be different combinations of the dependent claims that could possibly be allowable. For example instead of structuring the claims to have the one independent base (with or without the limitations of claim 4) with a number of dependent claims only dependent on the base claim, claims with more than one additional limitation (like combining the limitations of claims 5-8 into a single claim or changing the dependency so claim 8 includes the limitations of the other claims would be more likely overcome prior art than one base claim with a set of individual limitations combined with that base claim.

**Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

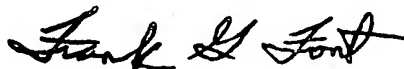
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

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Date: 7/13/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800